

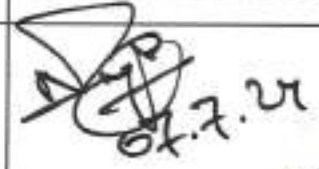



TENDER DRAWING FOR VERTICAL EXTENSION OF ONE FLOOR (2ND FLOOR) UCEP RANGPUR TVET INSTITUTE

Taluk Dharmadas, Rangpur- 5400.

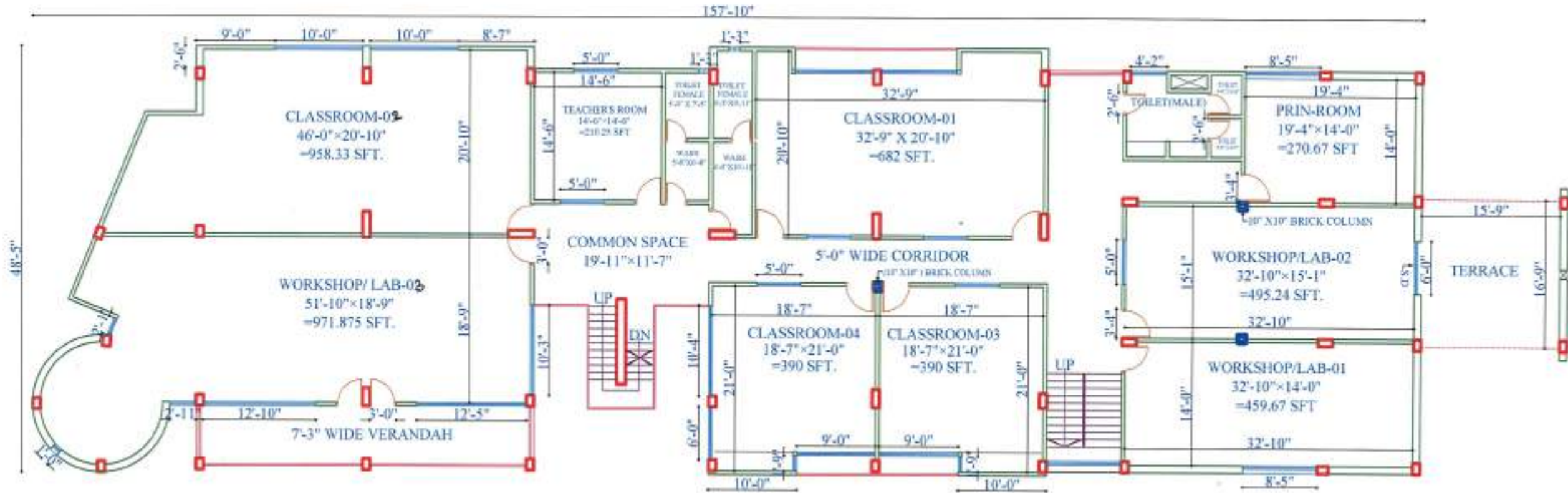
UCEP BANGLADESH

DRAWING SHEET NO.
CP-000

PROJECT:	REV. NO.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	RECOMMENDED BY	APPROVED BY
CONSTRUCTION OF ONE FLOOR VERTICAL EXTENSION (2ND FLOOR), UCEP RANGPUR TVET INSTITUTE, Taluk Dharmadas, Rangpur- 5400.	A1	04.07.24	1ST SUB. FOR APPROVAL	 Md. Asraful Hoque Site Engineer, Infra. Development Social Enterprise Development UCEP Bangladesh	 Nihil Chandro Mojumder Deputy Manager, Infra. Development Social Enterprise Development UCEP Bangladesh	 Abu Noman Md. Shibliur Ahmed Director, People and Administration UCEP Bangladesh	 Md. Abdul Karim PhD Executive Director UCEP Bangladesh
DRAWING TITLE:							
COVER PAGE							

UCEP RANGPUR TVET INSTITUTE

Total Floor Area= 6950 Sft (Approx.)



N 2ND. FLOOR PLAN (PROPOSED)
N.T.S- (Not to Scale)

DRAWING SHEET NO.
AD-001

PROJECT:	REV. NO.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	RECOMMENDED BY	APPROVED BY
CONSTRUCTION OF ONE FLOOR VERTICAL EXTENSION (2ND FLOOR), UCEP RANGPUR TVET INSTITUTE, Taluk Dharmadas, Rangpur- 5400.	A1	03.07.24	1ST SUB. FOR APPROVAL	Md. Asraful Hoque Site Engineer, Infra. Development Social Enterprise Development UCEP Bangladesh	Nikhil Chandro Mojumder Deputy Manager, Infra Development Social Enterprise Development UCEP Bangladesh	Abu Noman Md. Shibliir Ahmed Director, People and Administration UCEP Bangladesh	Md. Abdul Karim PhD Executive Director UCEP Bangladesh
DRAWING TITLE:							
PROPOSED 2ND FLOOR LAYOUT PLAN							

GENERAL STRUCTURAL NOTES

1. GENERAL

- a) ULTIMATE STRESS DESIGN METHOD USED IS UFD ACCORDING TO BANGLADESH NATIONAL BUILDING CODE (BNBC) 2020 AND ACI 318-08
- b) ALL THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS.
- c) FOLLOW BNBC/20 FOR SPECIFICATIONS/STRUCTURAL REQUIREMENTS NOT MENTIONED IN THE DRAWINGS OR IN THIS NOTE SHEET.
- d) ANY DETAILS NOT SHOWN IN THE DRAWING SHOULD BE DONE ACCORDING TO ACI DETAILING MANUAL.
- e) BASIC WIND SPEED = 45.3 m/s.
- f) SEISMIC ZONE - 3
- g) OTHER LOADS AS PER BNBC 2020.

2. MINIMUM LIVE LOADS AS PER UBC, ASCE-07-05 & BNBC 20.

3. FOUNDATION

- a) FOOTING FOUNDATION.
- b) FOUNDATION CONSTRUCTION SHALL BE PERFORMED AS PER STANDARD PRACTICES.
- c) SOIL BEARING CAPACITY IS 3 KSF AT 1.0 M DEPTH BELOW EGL. AS PER SOIL INVESTIGATION REPORT.

4. CONCRETE & STEEL :

- a) TYPE : CONCRETE COMPRESSIVE STRENGTH CONSIDERED AS FOLLOWS :
 - i) ALL COLUMN, WALL, FOOTING, f_c = MINIMUM 25.0 MPa (3600 psi)
 - ii) BEAM, SLAB, STAIR ETC, f_c = 25.0 MPa (3600 psi) WHICH ARE TO BE CONFIRMED BY TRIAL MIX DESIGN.
- b) MINIMUM CYLINDER STRENGTH : BASED ON CYLINDER TEST OF DIAMETER ϕ = 150mm & HEIGHT = 300mm

CURING OF R.C.C WORK:

- i) CURING TIME MINIMUM 21 DAYS
- ii) METHOD OF CURING:
 - = HORIZONTAL SURFACE - BY PONDING OF WATER
 - = OTHER SURFACES-BY WRAPPING MOIST JUTE FABRIC AND SPRINKLING WATER BY HOUSE PIPE FREQUENTLY.
 - = S8 GRADE STEEL ANGLE BAR FOR STEEL TRUSSES OF ROOFS

5. STEEL REINFORCEMENT

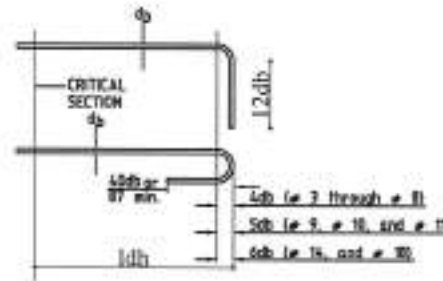
- a) COLUMN, WALL & BEAM REINFORCEMENTS ARE OF 60 GRADE HIGH STRENGTH DEFORMED BAR MADE FROM BILLET STEEL.
- b) SLAB, WATER TANK, STAIR, LINTEL ETC. REINFORCEMENTS ARE OF 60 GRADE HIGH DEFORMED BAR MADE FROM BILLET STEEL.
- c) YIELD STRENGTH OF STEEL f_y = 415 MPa (60,000 psi) CONFORMED TO ONE OF THE FOLLOWING SPECIFICATIONS : i) BCS 1313 : 1991, ii) ASTM A618M
- d) THE FOLLOWING TESTS FOR REINFORCING BARS FROM RANDOM SAMPLES SHALL BE CONDUCTED AT BUET AS PER BCS 1313 : 1991 AND TEST RESULT SHALL BE SUBMITTED TO THE ENGINEER FOR CHECKING AND RECORD :
 - i) TENSILE STRENGTH TEST
 - ii) PERCENTAGE ELONGATION TEST
 - iii) BEND/REBEND TEST

6. LAP LENGTH

UNLESS OTHERWISE MENTIONED IN THE DRAWINGS, LAP LENGTH OF BARS SHALL BE :

BAR DIA (mm)	TENSION (mm)	COMPRESSION (mm)
10#	400	300
12#	480	360
16#	640	480
20#	800	600
25#	1000	750

COLUMN LAPS SHALL BE TENSION LAPS



COLUMN LAPS SHALL BE TENSION LAPS

7. HOOKS OF REBAR

- a) FOR ALL RE-BAR : PROVIDE 90° STANDARD HOOKS (L-BENT) IF NOT SHOWN IN THE DRAWINGS.

8. SPACER BARS

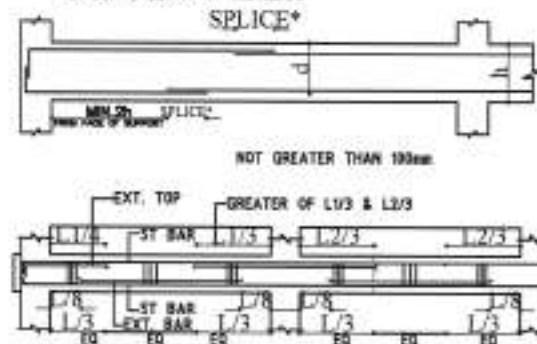
- TO SUPPORT SECOND LAYER BARS IN BEAMS USE 25# SPACER BARS @ 1000 C/C WHERE REQUIRED.

9. CHAIRS

- USE CHAIRS OF NECESSARY DIMENSION MADE OF 20# BAR TO SUPPORT TOP BARS OF MAT @ 1200 C/C.

10. LAP LOCATION :

- a) FOR BEAM BOTTOM BAR, LAP NOT TO BE PROVIDED AT MIDDLE THIRD ZONE OF THE SPAN
- b) FOR BEAM TOP BAR, LAP MAY BE PROVIDED AT MIDDLE THIRD ZONE OF THE SPAN
- c) NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE PLACE
- d) LAP SPLICES ARE TO BE CONFIRMED BY HOOPS WITH MAXIMUM SPACING OR PITCH OF $d/4$ OR 100 WHERE d IS THE EFFECTIVE DEPTH OF THE BEAM.



TYPICAL SECTION OF BEAM LONG SECTION

11. DEVELOPMENT LENGTH

- ALL BEAM AND SLAB REBARS SHOULD BE EXTENDED INTO THE SUPPORT UP TO DEVELOPMENT LENGTH.

12. ALL ADMIXTURE

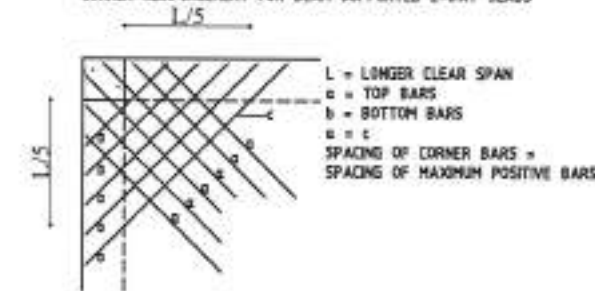
- APPROVAL BY THE CONSULTANT.

13. WATER STOPPER

- 25mm WIDE PVC WATER STOPPER TO BE USED AT ALL CONSTRUCTION JOINTS BELOW GROUND IN MAT, RETAINING WALL & WATER TANK WALL.

14. CORNER REINFORCEMENT (COR)

CORNER REINFORCEMENT FOR BEAM SUPPORTED 2-WAY SLABS



15. CONCRETE CLEAR COVER FOR REINFORCING BARS

MEMBER	LOCATION/CONDITION	CLEAR COVER(mm)	FIGURE
MAT	SIDE	75	
	BOTTOM	75	
COLUMN	ABOVE MAT	= 40	
WALL	ABOVE MAT	= 40	
BEAM	TOP, SIDE	= 40	
	BOTTOM	= 40	
SLAB AND STAIR	TOP AND BOTTOM	20	
RETAINING WALL	EXTERIOR	45	
	INTERIOR	40	
WATER TANK	WATER FACE	50	
	OTHER FACE	50	

= Free bar
= Free stirrups

16. MAXIMUM BARS IN BEAMS IN SINGLE LAYER

- MAXIMUM NUMBER OF BARS AS A SINGLE LAYER IN BEAM STEM SHALL BE AS PER ACI DETAILING MANUAL.

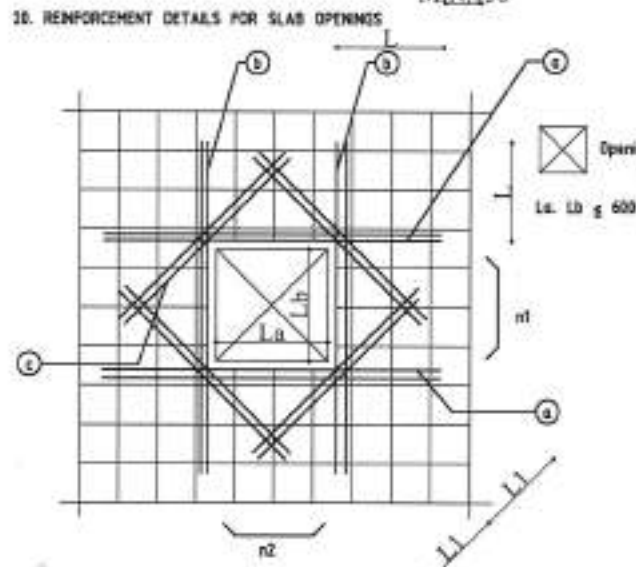
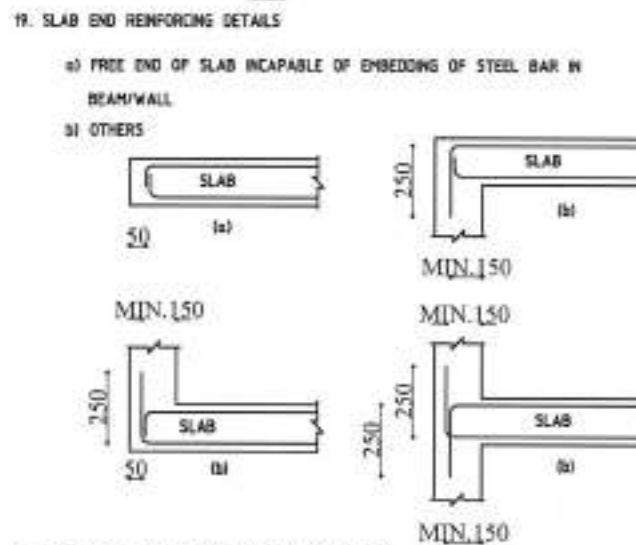
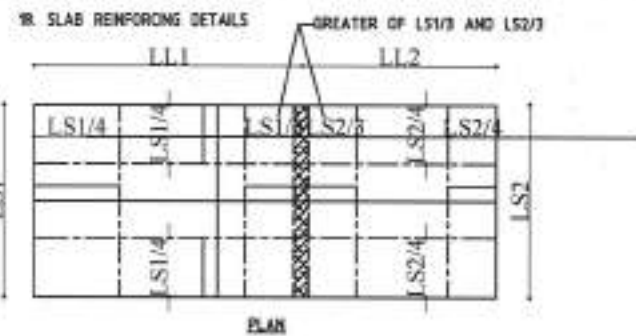
17. MINIMUM BAR SPACING OF COLUMN LONGITUDINAL BARS

- CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL NOT BE LESS THAN 1.5 TIMES BAR DIAMETER, 1.5 TIMES OF THE MAXIMUM SIZE OF COARSE AGGREGATE NDR 40mm.

DRAWING SHEET NO.

GN-001

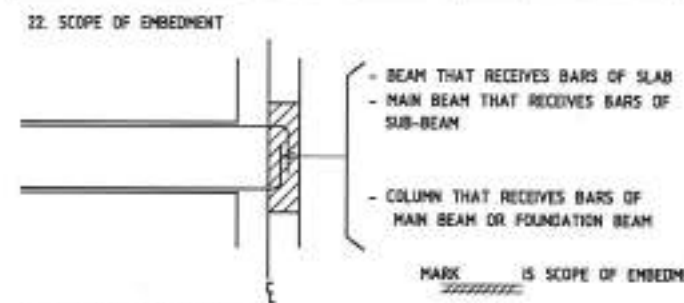
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DRAWING TITLE:							
GENERAL STRUCTURAL NOTES-01							



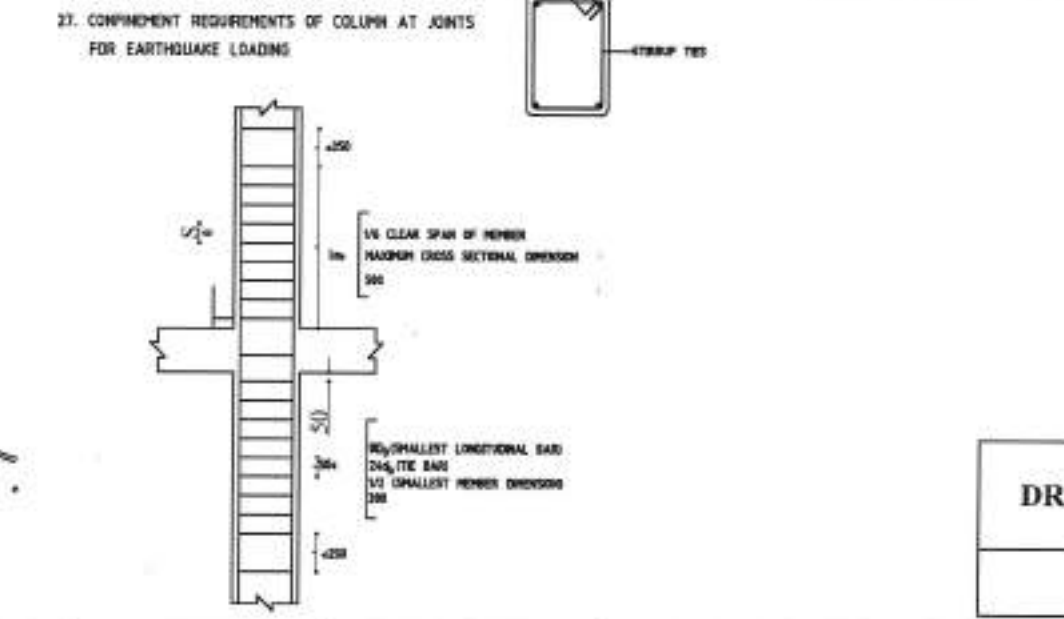
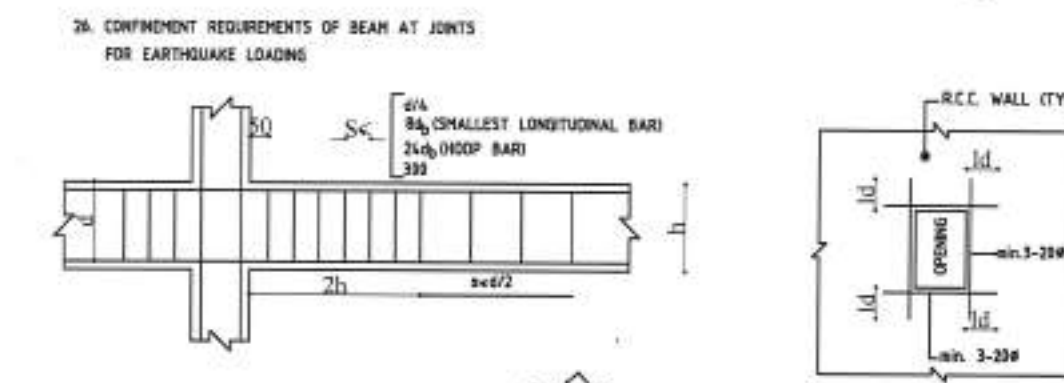
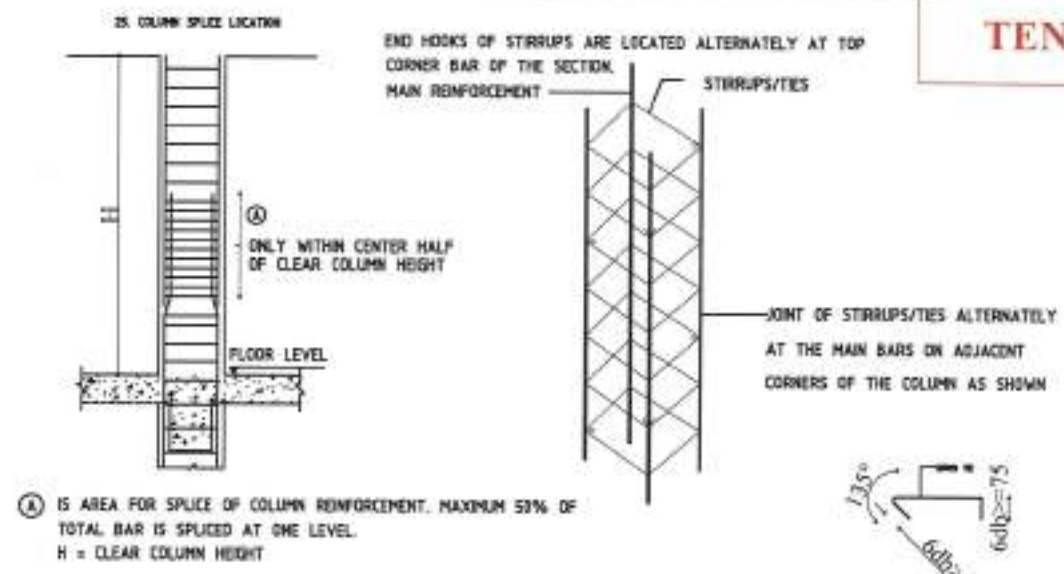
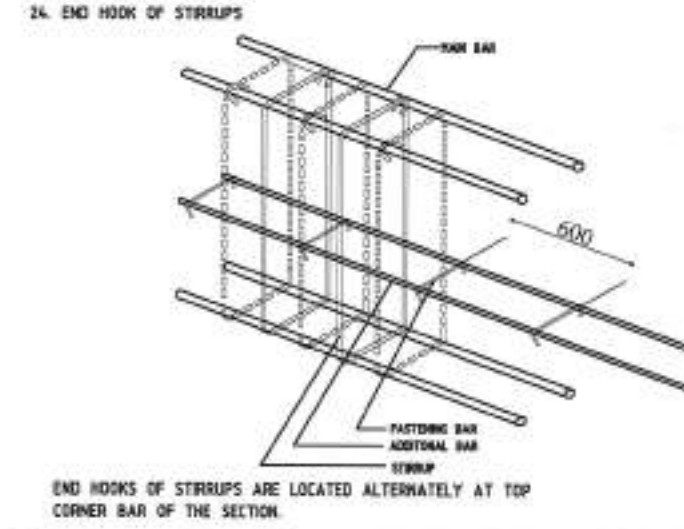
- $n1, n2$ = THE NUMBER OF BARS WHICH ARE CUT OFF FOR OPENING
- (a) THE NUMBER OF EXTRA BARS = $n1/2$ (TOP AND BOTTL BARS)
 - (b) THE NUMBER OF EXTRA BARS = $n2/2$ (TOP AND BOTTL BARS)
 - (c) THE NUMBER OF EXTRA BARS = $2 \cdot d12$ (TOP AND BOTTL BARS)

21. RECOMMENDED END HOOKS

BAR HOOK	FORM AND EXTENSION	BEND ANGLE (degree)	BEND RADIUS (R)	USED BAR	LOCATION
PRIMARY REINF.		90°	$r = 2db$	6 10 25	LAP SPICE END OF ANCHORAGE
TIE/STIRRUPS		135°	$r = 1.25db$	6 10 12	STIRRUPS FASTENING BAR DIAGONAL HOOP
PRIMARY REINF.		90°	$r = 2.5db$	6 10 32	BEND-UP FOR EMBEDMENT
SLAB		45°	$r = 5db$	6 10 20	BEND BAR IN SLAB



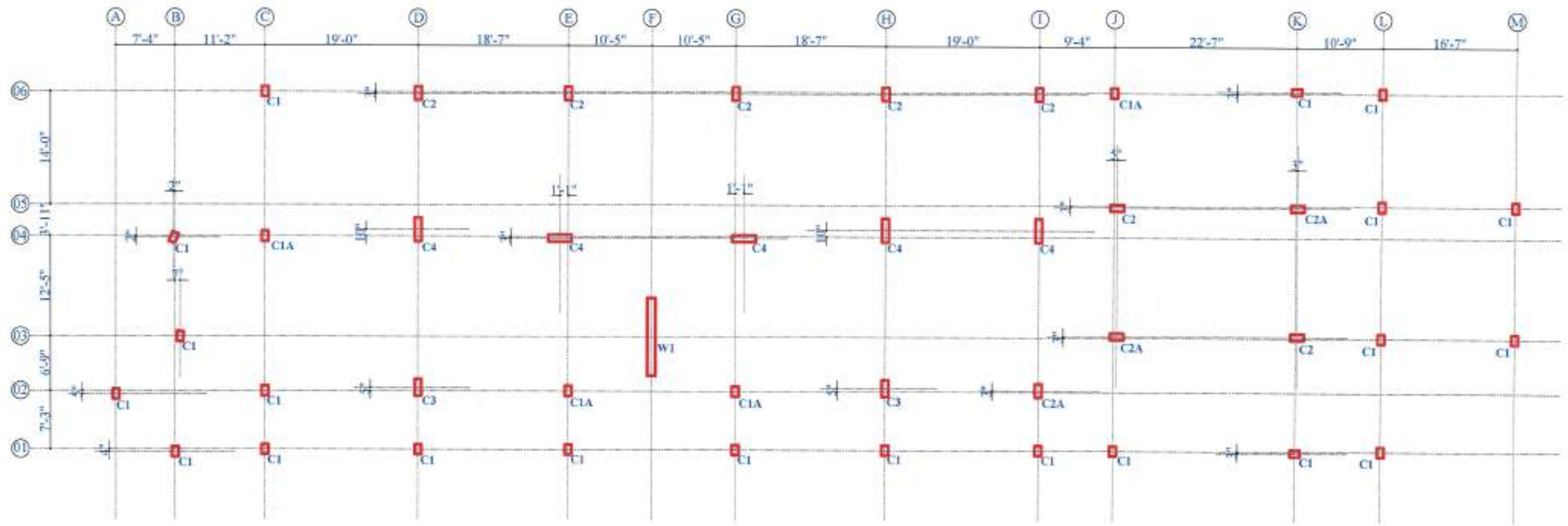
23. OPENING IN R.C.C. WALLS
NOT LESS THAN THREE NO. 20# BARS SHALL BE PROVIDED AROUND ALL DOOR AND WINDOW OPENINGS IN R.C.C. WALLS. THE BAR SHALL BE EXTENDED BEYOND THE CORNERS OF THE OPENINGS TO A DISTANCE EQUAL TO THE DEVELOPMENT LENGTH BUT NOT LESS THAN 600.



DRAWING SHEET NO.
GN-002

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				Md. Asrafil Hoque Site Engineer, Intra. Development Social Enterprise Development UCEP Bangladesh	Nikhil Chandro Mojumder Deputy Manager, Intra. Development Social Enterprise Development UCEP Bangladesh	Abu Noman Md. Shabbir Ahmed Director, People and Administration UCEP Bangladesh	Md. Abdul Karim PhD Executive Director UCEP Bangladesh
DRAWING TITLE:							
GENERAL STRUCTURAL NOTES-02							

TENDER DRAWING



N **COLUMN LAYOUT PLAN**

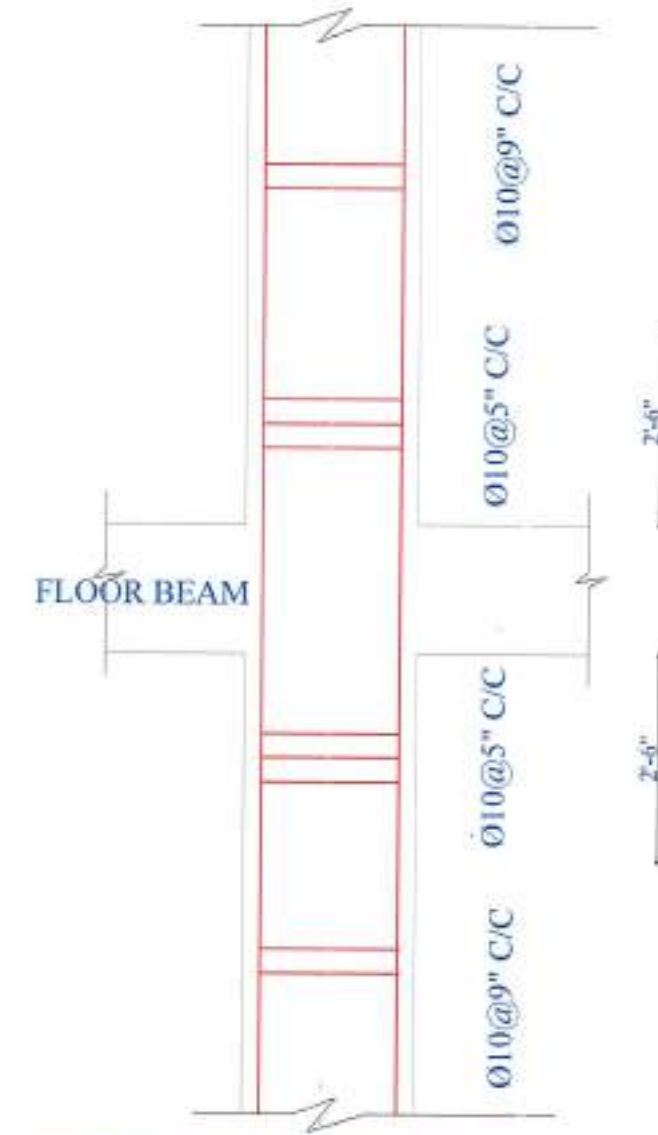
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SD-001

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DRAWING TITLE:							
COLUMN LAYOUT PLAN							

TENDER DRAWING

COLUMN REINFORCEMENT SCHEDULE:

Name of Column	BELOW GROUND FLOOR	GROUND & 1ST. FLOOR	2ND FLOOR
C1			
C1A			
C2			
C2A			
C3			
C4			
W1			

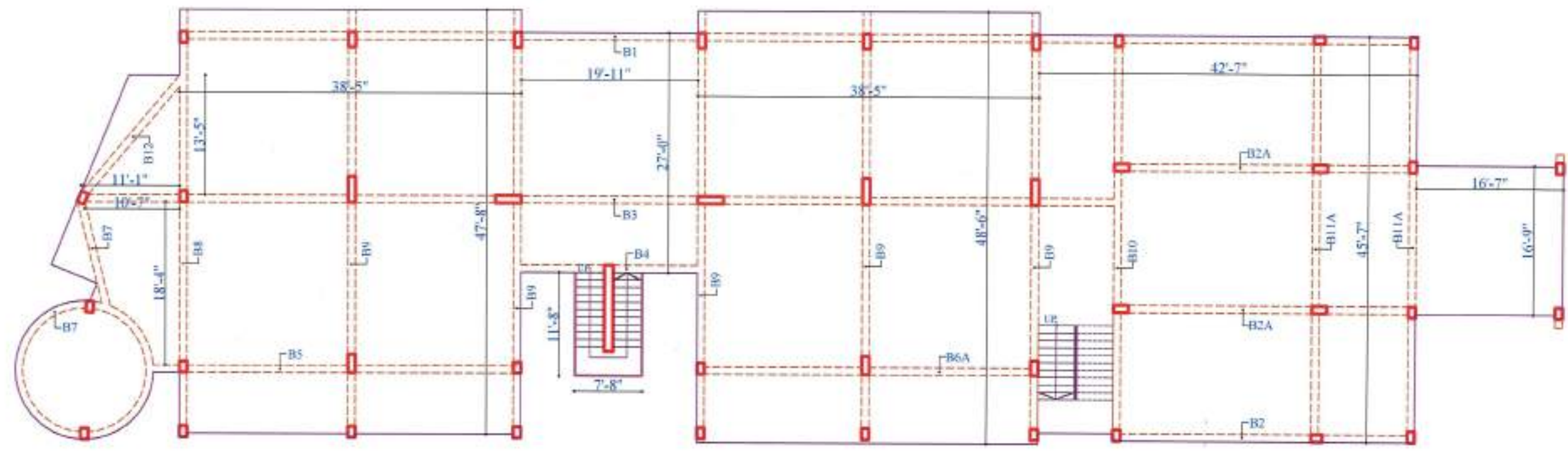
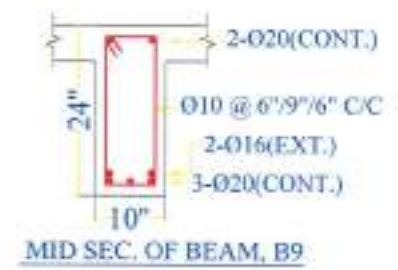
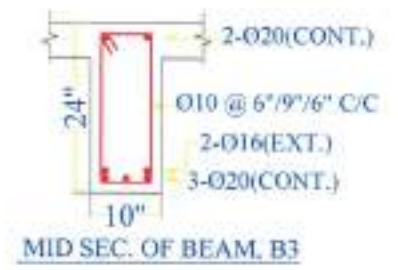


TYPICAL COLUMN SHOWING TIES

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SD-002

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				Md. Aariful Hoque Site Engineer, Intra. Development Social Enterprise Development UCEP Bangladesh	Nikhil Chandro Mojumder Deputy Manager, Intra. Development Social Enterprise Development UCEP Bangladesh	Abu Noman Md. Shabbir Ahmed Director, People and Administration UCEP Bangladesh	
DRAWING TITLE:							
COLUMN REINFORCEMENT SCHEDULE							

TENDER DRAWING



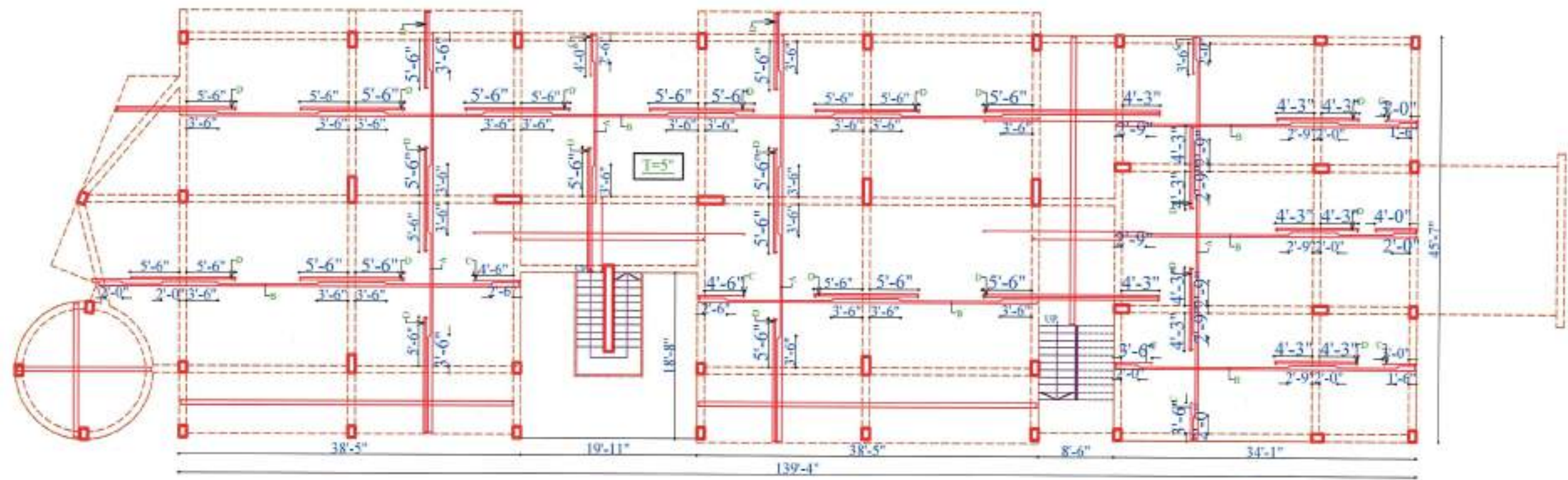
N 2ND FLOOR BEAM LAYOUT

NOTE:
* ALL BEAMS ARE (10"×24") EXCEPT BEAM, B7(10"×15")

DRAWING SHEET NO.
SD-003

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DRAWING TITLE:							
2ND FLOOR BEAM LAYOUT PLAN							

TENDER DRAWING



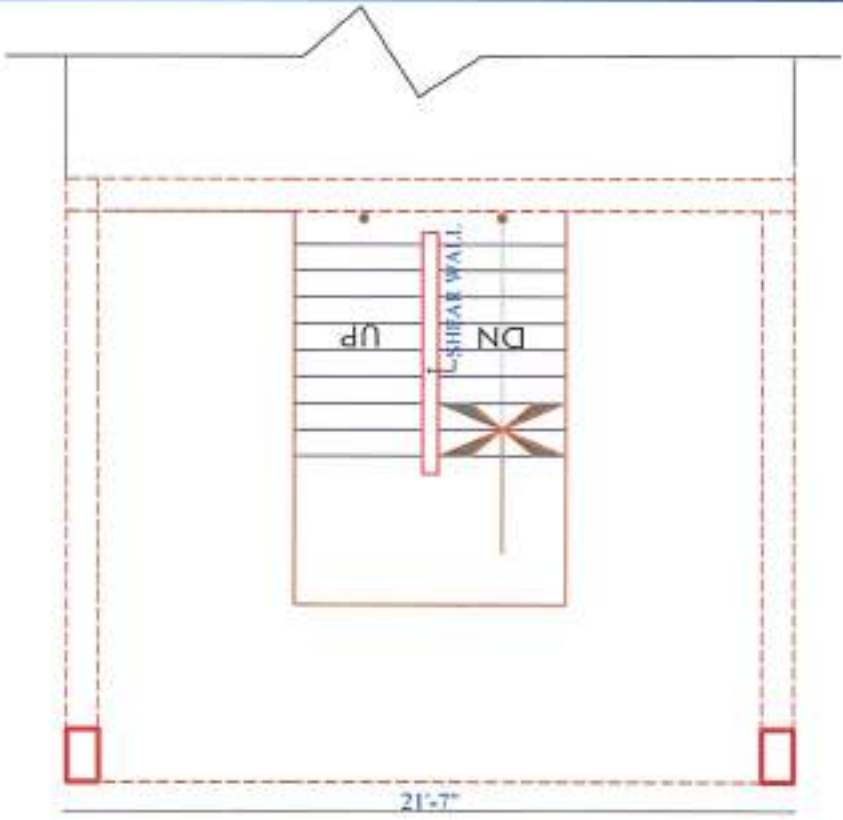
N 2ND FLOOR ROOF SLAB REINF. PLAN

SLAB REINF. DETAILS:
 Concrete Strength: (As per BoQ Specifications)
 Slab Thickness, T = 5"
 A = Ø10 @ 4½" C/C
 B = Ø10 @ 5" C/C
 C = 1-Ø10 EXTRA TOP
 D = 2-Ø10 EXTRA TOP

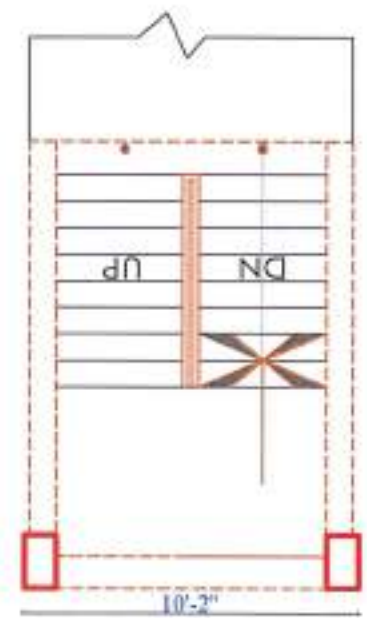
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SD-004

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	DRAWING TITLE:						
2ND FLOOR ROOF SLAB REIN. DETAILS PLAN							

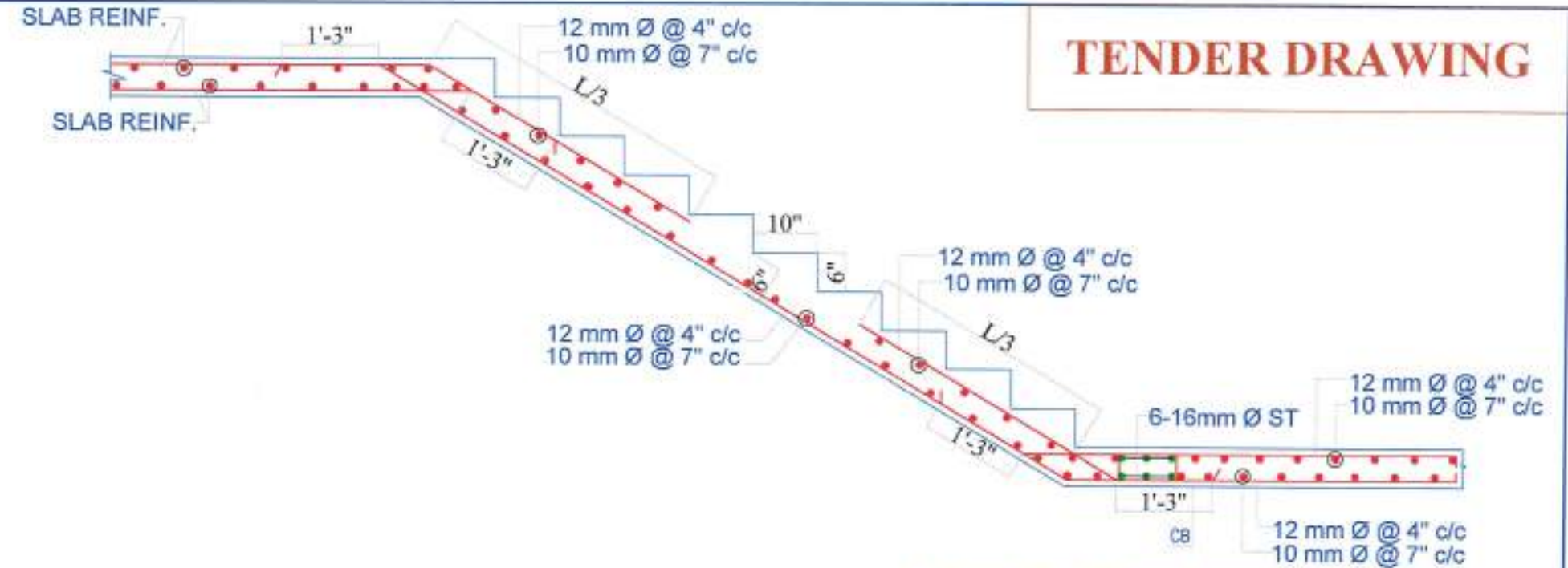
TENDER DRAWING



PLAN OF STAIR- (TYPICAL FLOOR)

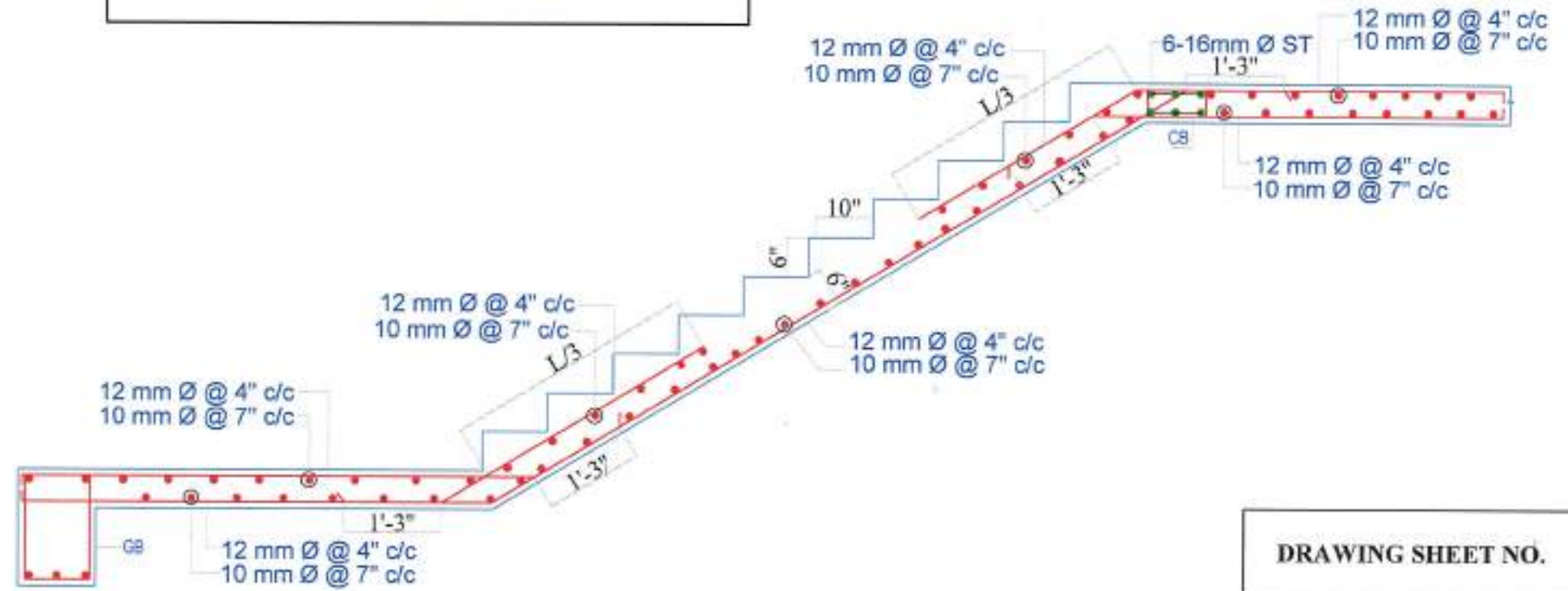


PLAN OF STAIR- (TYPICAL FLOOR)



REINF. DETAIL OF TYPICAL FLIGHT

NOTE:
RISER HEIGHT, NUMBER, WIDTH, & TREAD OF STAIR AND OTHER MEASUREMENT SHALL BE CONFIRMED ACCORDING TO FIELD MEASUREMENT.



REINF. DETAIL OF TYPICAL FLIGHT

DRAWING SHEET NO.
SD-005

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DRAWING TITLE:							
STAIR REIN. DETAILS (TYPICAL)							